

**PCT**

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

To:

YOSHIDA, Toshio  
YOSHIDA PATENT OFFICE No.202  
Hillside Ebisu Bldg.  
21-11, Ebisuminami 1-chome  
Shibuya-ku  
Tokyo 150-0022  
JAPON

Date of mailing ( <i>day/month/year</i> ) 09 March 2006 (09.03.2006)	
Applicant's or agent's file reference 19120	<b>IMPORTANT NOTIFICATION</b>
International application No. PCT/JP2004/004986	International filing date ( <i>day/month/year</i> ) 07 April 2004 (07.04.2004)
Applicant UNIMATEC CO. LTD. et al	

## 1. Transmittal of the translation to the applicant.



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

## 2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

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## 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Masashi Honda

# PATENT COOPERATION TREATY

Translation

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing  
(day/month/year)

Applicant's or agent's file reference

**19120**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

**PCT/JP2004/004986**

International filing date (day/month/year)

**07.04.2004**

Priority date (day/month/year)

**10.04.2003**

International Patent Classification (IPC) or both national classification and IPC

Applicant

**UNIMATEC CO. LTD.**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/004986

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-19	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-19	NO
Industrial applicability (IA)	Claims	1-19	YES
	Claims		NO

2. Citations and explanations:

The following documents have been cited in the ISR.

Document 1: JP, 63-165418, A (Toagosei Chemical Industry Co., Ltd.), 08 July, 1988 (08.07.88)

Document 2: JP, 6-145276, A (Toagosei Chemical Industry Co., Ltd.), 24 May, 1994 (24.05.94)

Document 3: JP, 8-92342, A (Japan Synthetic Rubber Co., Ltd.), 09 April, 1996 (09.04.96)

Document 4: JP, 8-41147, A (Japan Synthetic Rubber Co., Ltd., Japan Special Coating Co., Ltd.), 13 February, 1996 (13.02.96)

Document 5: WO, 96/10594, A1 (Zeonrize Co. Ltd., Nippon Zeon Co., Ltd., Sunarrow Co., Ltd.), 11 April, 1996

(1) Concerning claims 1, 5-13

Documents 1, 2 describe a method for producing a UV-curable liquid polyurethane resin according to the invention of this application, wherein (A) polycarbonate diol, (B) a trifunctional alcohol and (C) a diisocyanate compound are made to undergo a reaction in the presence of (D) a (meth)acrylate solution to obtain a (meth)acrylate solution of a urethane oligomer, and (F) a (meth)acrylate containing a hydroxyl group is added to the obtained solution to conduct a (meth)acrylation of the urethane oligomer at the ends. But the documents do not describe use of (E) a di(meth)acrylate compound of alkylene glycol with the alkylene group substituted by a lower alkyl together with (D). However, documents 3, 4 describe neopentyl glycol di(meth)acrylate (corresponding to (E) of the invention of this application) as a reactive diluting agent for urethane (meth)acrylate. Therefore, a person skilled in the art could have easily added neopentyl glycol di(meth)acrylate together with (D) at the time of the (meth)acrylation of the urethane oligomer in the method for producing a polyurethane resin described in documents 1, 2.

Therefore, the subject matters of claims 1, 5-13 of this application do not appear to involve an inventive step in view of the inventions described in cited documents 1-4.

(2) Concerning claims 2-4, 14

Documents 1, 2 do not describe "(H) a hindered phenol antioxidant having a molecular weight of 500 to 2000".

However, a person skilled in the art normally blends an antioxidant in a resin composition, and the above-mentioned hindered phenol antioxidant is well known to a person skilled in the art. Therefore, a person skilled in the art could have easily blended an appropriate amount of the above-mentioned hindered phenol antioxidant in the composition described in documents 1, 2.

Furthermore, a person skilled in the art could have accordingly determined whether the hindered phenol antioxidant is to be added before or after (meth)acrylation of the urethane oligomer at the ends.

Therefore, the subject matters of claims 2-4, 14 of this application do not appear to involve an inventive step in view of the inventions described in documents 1-4.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/004986

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

(1) The number of carbon atoms contained in the "lower alkyl" in "(E) the alkylene group is substituted by a lower alkyl group" described in claim 1 and "(E) component is 2,2-di-lower alkyl-1,3-propanedioldi(meth)acrylate" described in claim 10 is unclear.

(2) Claim 13 describes "the method for producing a UV-curable liquid polyurethane resin according to claim 1, wherein the photopolymerization initiator of (G) component...." and claim 14 describes "the method for producing a UV-curable liquid polyurethane resin according to claim 1, wherein the hindered phenol antioxidant of (H) component....", but claim 1 describes neither (G) component nor (H) component. Therefore, citation of claim 1 in claims 13, 14 is inappropriate.